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Health decline in Poland after 2002: response to a recent analysis of the changes in disease burden in Poland

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In March 2020 “PLoS One” published a paper by Gańczak and colleagues exploring the trends in years of life lost (YLLs), years lived with disability (YLDs), and disability-adjusted life years (DALYs) in Poland between 1990 and 2017, concluding that health in Poland is improving. Our research demonstrates that for the last 18 years Poland has experienced a public health crisis culminating in a health recession. In the period between 2003 and 2018 health growth in Poland first slowed down, and then came to a halt. Finally, between 2017 and 2018 life expectancy in Poland was declined. It is becoming increasingly obvious that one of the main causes of this health recession in the first decades of the 21st century has been the sudden and very pronounced increase in causes of death wholly attributable to alcohol consumption in Poland.

KEY WORDS: health crisis, Poland, life expectancy, alcohol-attributable death.**ADDRESS FOR CORRESPONDENCE:** Witold A. Zatoński, Institute – European Observatory of Health Inequalities, Calisia University, Nowy Świat 4, 62-800 Kalisz, Poland, e-mail: wzatonski@akademikaliska.edu.pl

In March 2020 “PLoS One” published a paper by Gańczak and colleagues exploring the trends in years of life lost (YLLs), years lived with disability (YLDs), and disability-adjusted life years (DALYs) in Poland between 1990 and 2017 [1]. However, the paper has a fundamental shortcoming, namely the choice of just two time points – 1990 and 2017 – around which the analysis is focused. Treating the period between 1990 and 2017 as a homogenous whole has unfortunately led the authors of this otherwise important publication to misleading conclusions¹. These are encapsulated by the opening sentence of the Conclusion: “Health in Poland is improving [...]”. In fact, our research demonstrates that for the last 18 years Poland has experienced a public health crisis culminating in a health recession [2-11].

A more nuanced look at the health trends between those dates in Poland shows that they are characterised by two very distinct periods, which merit to be analysed separately. First, between 1990 and 2002 Poland has experienced one of the steepest rates of health gain in Europe, which is reflected in almost all health indicators, including the best synthetic indicator – life expectancy. In this period life expectancy has grown by 4.2 years among Polish men and 3.5 years among Polish women [7-9, 12] (Fig. 1).

Unfortunately, this was followed by negative developments between 2003 and 2017, when the health growth in Poland has first slowed down, and then come to a halt. Finally, in the past two years life expectancy in Poland has been slightly declining [10] (Fig. 1).

¹ In May 2020, we sent the editors of “PLoS One” a paper commenting on how the published analysis reached misleading conclusions regarding the health developments in Poland in the last 18 years. After corresponding with the editors for over 3 months – an exchange focused on technical aspects rather than substantive problems with the paper – “PLoS One” refused to publish our paper in their journal.

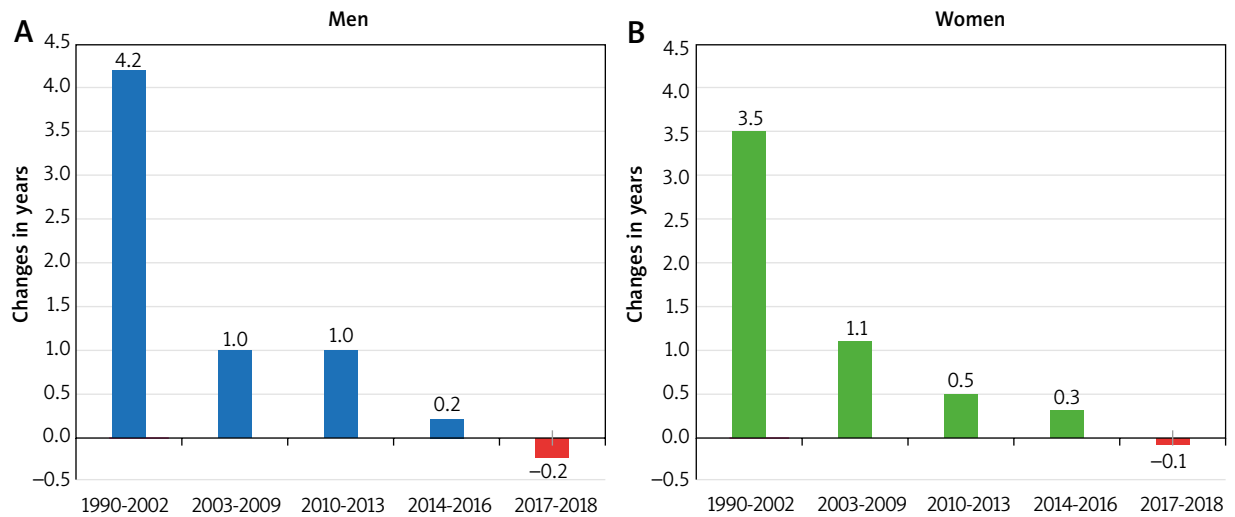


Figure 1. Changes in trends of life expectancy in selected time periods between 1990 and 2018 in Poland

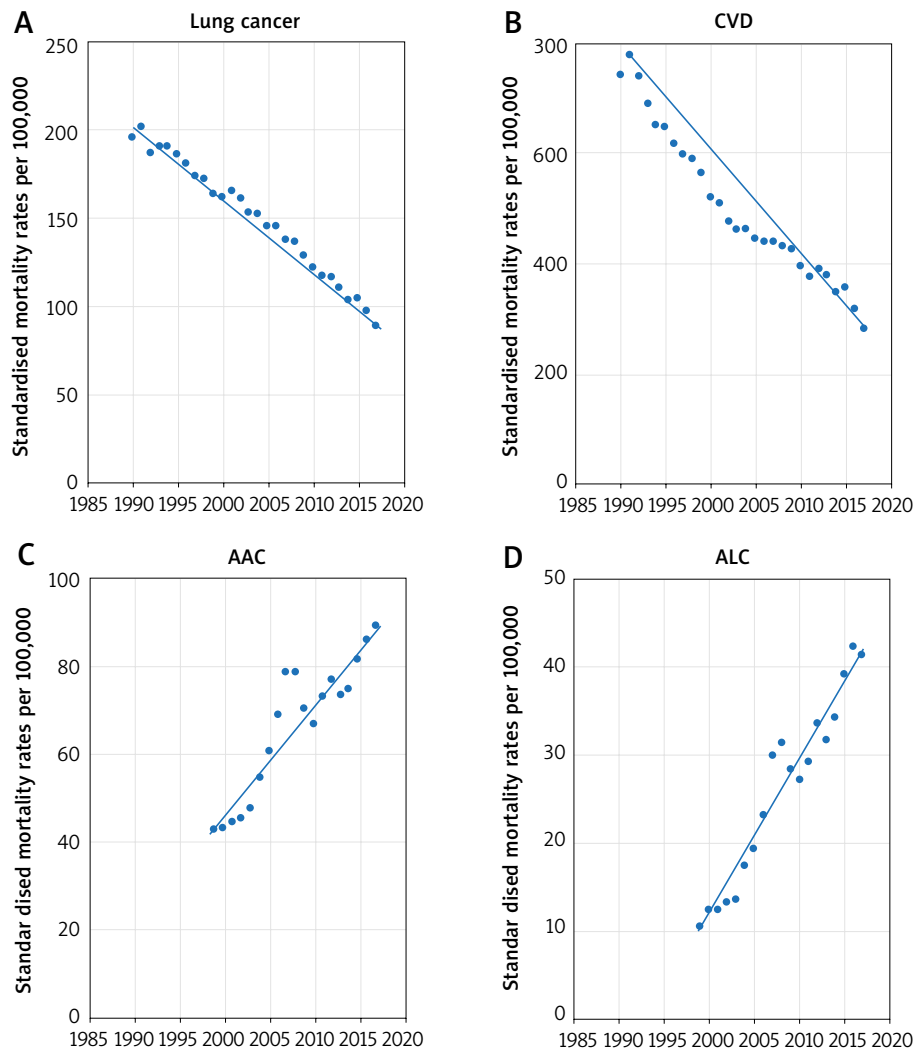


Figure 2. Time trends in mortality rates in men aged 45-64 between 1990 and 2017 in Poland due to lung cancer (A), cardiovascular diseases (CVD) (B), causes of death wholly attributable to alcohol consumption (AAC) (C) (including alcoholic liver cirrhosis) and alcoholic liver cirrhosis (ALC) (D)

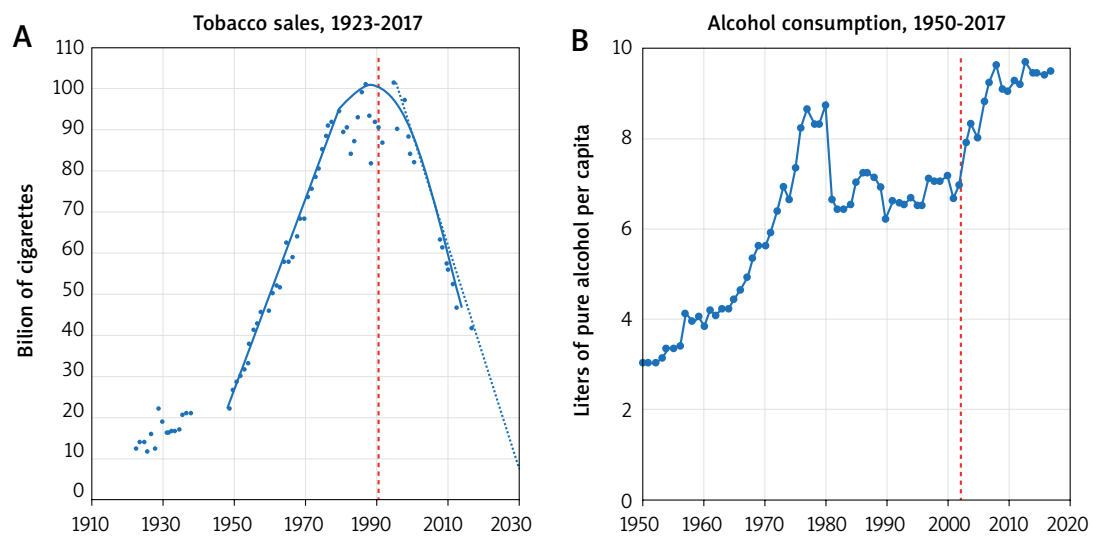


Figure 3. Trend in tobacco sales (A) and alcohol consumption (B) per capita (0+) in Poland

It is becoming increasingly obvious that one of the main causes of this health recession in the first decades of the 21st century has been the sudden and very pronounced increase in causes of death wholly attributable to alcohol consumption (AAC) in Poland [13-15]. AAC in the 20+ age group doubled among men and more than tripled among women (from 22.8/100,000 in 2002 to 45.8/100,000 in 2017 in men, and from 2.8/100,000 to 10.4/100,000 in women) [4]. A particularly steep rise has been recorded in alcoholic liver cirrhosis in men aged 45-64 (Fig. 2) [4, 16, 17]. This increase has been among the steepest in Europe (in fact in most European countries alcohol-related mortality has been declining) [15, 18-20].

The key factor driving these negative changes in Poland has been the growth in consumption of alcohol, from 6.5 litres per capita per annum in 2002, to almost 10 litres in 2017 [11] (Fig. 3). Poland, unlike Mediterranean and Balkan countries, until the late 20th century had moderately low levels of alcohol-attributable diseases, including alcoholic liver cirrhosis [5, 14, 15, 21]. Since 1982, as a result of pressure from the Solidarity movement [22, 23], alcohol control in Poland was based on a comprehensive programme of limiting the health effects of alcohol, based on Scandinavian models [24]. In the last two decades of the 20th century alcohol consumption in Poland fluctuated on a moderate European level, between 6 and 7 litres of pure spirit per capita per annum [11, 14, 15, 18]. At the dawn of the 21st century alcohol consumption in Poland stood at 6.5 litres, which placed it on the lower end of the spectrum of consumption in European countries [14].

The increase in alcohol consumption followed the weakening of Polish alcohol control regulation in the early 2000s [25]. In 2001 beer advertising returned to TV and in August 2002 the excise tax on vodka was lowered by 30% [11, 26, 27]. From 2010 the alcohol industry has

launched a massive marketing push, promoting small bottles (100-200 ml) of flavoured vodka available in thousands of retail outlets, in many of them for 24 hours/day, 7 days a week. Every day 3 million such bottles are sold in Poland, including around 600,000 between 6 am and noon. This amounts to over 1 billion small vodka bottles sold every year, which in 2017 accounted for over half of all vodka sold in Poland [11, 28, 29].

Another important omission in the Gańczak *et al.* paper is the fact that the authors have not highlighted the astounding divergence between the two key risk factors of non-communicable diseases in Poland – alcohol and cigarette consumption – in the analysed period (Fig. 3). The case of alcohol is outlined above. At the same time, since 1990 the consumption and sale of cigarettes in Poland, as well as smoking prevalence, have seen some of the fastest rates of decline in the world [30-40]. The consumption of cigarettes decreased from almost 4,500 cigarettes per annum per capita in the 1980s (one of the highest levels ever recorded globally) to under 1,500 cigarettes in 2015 [31-33]. Since alcohol and tobacco are both additive and competing risk factors for many non-communicable causes of death, diverging developments in these behaviours might precipitate misleading conclusions concerning the changing impact of alcohol on mortality [4, 13, 18, 33, 41-45].

Finally, while the impact of the reduction in smoking rates on the epidemiology of lower respiratory infections and COPD in Poland is mentioned in the Gańczak *et al.* paper [1], the same is not the case for other leading disease groups, most prominently cardiovascular diseases. This is a significant omission given that smoking in Poland is a fundamental risk factor for cardiovascular diseases [12, 46-51]. The huge decline in smoking rates in Poland is responsible for at least 1/3 of decrease in cardiovascular mortality between 1990 and 2017 [7-9, 12] (Fig. 2).

As is clear from the above, in order to understand the developments in health in Poland in the last 30 years any study must acknowledge the specificity of the country's epidemiological trends. On one hand, Poland has been the country with one of the world's fastest and largest declines in smoking, and smoking-related diseases, especially among men. On the other, the lack of coherent alcohol control policy led to an alcohol epidemic and a surge in premature deaths attributable to alcohol consumption, especially among young and middle-aged adults [2, 23, 52-56]. In result, in contrast to the conclusions of the paper by Gańczak and colleagues [1], in the last 15 years health improvement in Poland has stalled, culminating in a health recession in the last two years, in which life expectancy levels have actually declined.

DISCLOSURE

The authors report no conflict of interest.

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AUTHORS' CONTRIBUTIONS

WAZ prepared the concept of the article. WAZ, KJK and MZ prepared the manuscript. All authors took part in preparing the final version of the publication.